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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,492	10/30/2001	Joseph John Sumakeris	5308-223	5639

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EXAMINER

KACKAR, RAM N

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 04/08/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/017,492

Applicant(s)

SUMAKERIS ET AL.

Examiner

Ram N Kackar

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 31-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-42 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,6,7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-30 drawn to an apparatus, classified in class 118, subclass 725.
  - II. Claims 31-42, drawn to a method, classified in class 117, subclass 84.
2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus can be used without heating.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. David D Beatty on 2/26/03 a provisional election was made with traverse to prosecute the invention of Group I, claim 1-30. Affirmation of this election must be made by applicant in replying to this Office action. Claims 31-42 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

Art Unit: 1763

application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

6 The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7 Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this instance the claim cites a process limitation (generated power being attenuated) while being dependent upon an apparatus claim.

***Claim Rejections - 35 USC § 101***

8 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9 Claim2 is rejected under 35 U.S.C. 101 also as the claim overlaps two different statutory classes of invention.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

10 Claims 1-5, 8, 13, 17-18, 21-25 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Kordina et al (US 5695567).

Kordina et al disclose a heating device configured for 1500-1700 (Col 5 line 16) comprising a susceptor portion (Fig 5), a conductor portion (16, 17), EMF generator operable to

Art Unit: 1763

induce eddy currents in the susceptor to heat the device (18) and conductor portion to conduct heat (16, 17), susceptor parts made of graphite coated with silicon carbide (Col 5 lines 49-65).

Regarding eddy currents in the susceptor only and substantially no eddy current in the conductor portion, the depth of the eddy current and resultant inductive heating is a function of operating parameters like frequency of EMF, relative permeability and resistivity of the susceptor material (See teaching reference Jancosek et al US 4845332 Col 5 lines 14-33). The structure disclosed by Kordina et al is inherently capable of this function.

11 Claims 1-5, 8-10, 12, 17 and 21- 23 are rejected under 35 U.S.C. 102(a) or 102 (e) as being anticipated by Kong et al (US 6217662).

Kong et al disclose a heating device configured for 1300-1800 (Col 2 line 52) comprising a susceptor portion (Fig 7-57), a conductor portion (54), EMF generator operable to induce eddy currents in the susceptor to heat the device (Fig 2-45, 46) and conductor portion to conduct heat (Fig 7-54), susceptor and conductor parts made of graphite coated with silicon carbide (Col 6 lines 10-16).

### ***Claim Rejections - 35 USC § 103***

12 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13 Claim 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kordina et al (US 5695567) in view of Holzlein et al (US 6406983).

Kordina et al disclose susceptor of graphite coated with silicon carbide but do not disclose coating of tantalum carbide.

Holzlein et al disclose a coating of tantalum carbide in their inductive heating device (fig 1 and Col 7 lines)

Therefore it would have been obvious to one of ordinary skill in the art at the time invention was made to coat the susceptor by tantalum carbide so as to prevent migration of carbon to gas stream.

14 Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kong et al (US 6217662) in view of Holzlein et al (US 6406983).

Kong et al also disclose conductor portion of graphite coated with silicon carbide but do not disclose coating of refractory metal carbide.

Holzlein et al disclose a coating of tantalum carbide in their inductive heating device (fig 1 and Col 7 lines)

Therefore it would have been obvious to one of ordinary skill in the art at the time invention was made to coat the susceptor by tantalum carbide so as to prevent migration of carbon to gas stream.

15 Claims 14-16, 19-20 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kordina et al (US 5695567) in view of Frijlink et al (US 4860687).

Kordina et al do not disclose a platter region and an opening in the liner

Frijlink et al disclose an opening and a platter for holding a substrate for rotation (abstract and Fig 5a and 5b).

Art Unit: 1763

Therefore it would have been obvious to one of ordinary skill in the art at the time invention was made to have an opening and platter so as to be able to provide rotation to the substrate for uniformity of deposition.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kordina et al (US 5695567). Kordina does not disclose the liner to be of variable thickness but disclose tapered passage for gas (Col 5 lines 1-4).

Therefore it would have been obvious to one of ordinary skill in the art at the time invention was made to provide taper using the liner since liners define the passage of gas so as to be able to counteract a depletion of the precursor gases.

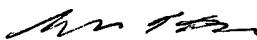
#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N Kackar whose telephone number is 703 305 3996. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 703 308 1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9310 for regular communications and 703 872 9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

RK  
April 7, 2003

  
**BENJAMIN L. UTECH**  
**SUPERVISORY PATENT EXAMINER**  
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